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Amendments to the Claims

Claim 1 (Currently amended): A system for treating a fluid comprising:

a treatment chamber;

a light source for emitting light, such that at least a portion of the light travels within the treatment chamber; and

a treatment area within the treatment chamber;

wherein a flow profile of the fluid in the treatment area matches the fluence profile of the light that travels within the treatment area;

wherein the light source is external to the treatment chamber.

Claim 2 (Original): The system of claim 1 wherein the light source is a broad spectrum pulsed light source.

Claim 3 (Original): The system of claim 1 wherein the light source produces at least one wavelength of light between 170nm and 2600nm.

Claim 4 (Original): The system of claim 1 wherein the light source is a continuous wave light source.

Claim 5 (Original): The system of claim 1 wherein the light source is a mercury gas lamp.

Claim 6 (Original): The system of claim 1 wherein the light source is a pulsed laser.

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Claim 7 (Canceled)

Claim 8 (Canceled)

Claim 9 (Currently amended): ~~The system of claim 1 further comprising A system for treating a fluid comprising:~~  
~~a treatment chamber;~~  
~~a light source for emitting light, such that at least a portion of the light travels within the treatment chamber;~~  
~~a treatment area within the treatment chamber; and~~  
~~a plurality of baffles coupled to the treatment chamber, wherein the baffles control the flow of fluid within the treatment chamber;~~  
~~wherein a flow profile of the fluid in the treatment area matches the fluence profile of the light that travels within the treatment area.~~

Claim 10 (Original): The system of claim 9 wherein the plurality of baffles provide for substantially uniform treatment of the fluid.

Claim 11 (Currently amended): A system for the treatment of fluid comprising:  
a treatment chamber;  
a light source for emitting light, such that at least a portion of the light travels within the treatment chamber; and  
a plurality of transmissive baffles for controlling the flow of fluid within the treatment chamber;

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wherein the transmissive baffles allow transmission of the light throughout the treatment chamber preventing biofilm buildup within the treatment chamber;

wherein the plurality of baffles match the flow of fluid to the fluence profile of the light source in at least a portion of the treatment chamber.

Claim 12 (Original): The system of claim 11 wherein the light source is a broad spectrum pulsed light source.

Claim 13 (Original): The system of claim 11 wherein the light source produces at least one wavelength of light between 170nm and 2600nm.

Claim 14 (Original): The system of claim 11 wherein the light source is a continuous wave light source.

Claim 15 (Original): The system of claim 11 wherein the light source is a mercury gas lamp.

Claim 16 (Original): The system of claim 11 wherein the light source is a pulsed laser.

Claim 17 (Currently amended): The system of claim 11 wherein the light source is internal to the treatment chamber.

Claim 18 (Original): The system of claim 11 wherein the light source is external to the treatment chamber.

Claim 19 (Canceled)

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Claim 20 (Currently amended): An apparatus for treating a fluid ~~liquid~~ with light comprising:  
a treatment chamber;  
a first baffle within the treatment chamber for slowing the velocity of the fluid;  
a second baffle within the treatment chamber for matching the flow of the fluid a fluence profile of light traveling within at least a portion of the treatment chamber; and  
a third baffle within the treatment chamber for maintaining the flow of the fluid throughout a treatment area.

Claim 21 (Currently amended): The apparatus of claim 20 wherein at least a part of a the light source is within the treatment chamber.

Claim 22 (Currently amended): The apparatus of claim 20 wherein a the light source is outside the treatment chamber.

Claim 23 (Currently amended): A method of treating a fluid comprising:  
inputting the fluid into a treatment chamber;  
exposing the fluid to light from a ~~the~~ treatment lamp;  
matching a flow profile of the fluid with a fluence pattern of a light source within at least a portion of the treatment chamber; and  
outputting the fluid from the treatment chamber;  
providing a first baffle within the treatment chamber  
designed to slow the fluid velocity;

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providing a second baffle within the treatment chamber designed to distribute the flow of the fluid; and

providing a third baffle within the treatment chamber designed to maintain the flow of the fluid through a treatment area.

Claim 24 (Canceled)

Claim 25 (Currently amended): A method of treating fluid comprising:

inputting a fluid into a treatment chamber;  
matching a flow profile of the fluid with a fluence pattern of a treatment lamp; and  
outputting the fluid from the treatment chamber;  
wherein the treatment lamp is external to the treatment chamber.

Claim 26 (Original): The system of claim 25 wherein the treatment lamp produces a broad spectrum pulsed light.

Claim 27 (Original): The system of claim 25 wherein the treatment lamp produces at least one wavelength of light between 170nm and 2600nm.

Claim 28 (Original): The system of claim 25 wherein the treatment lamp produces a continuous wave light.

Claim 29 (Original): The system of claim 25 wherein the treatment lamp is a mercury gas lamp.

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Claim 30 (Original): The system of claim 25 wherein  
the treatment lamp is a pulsed laser.

Claim 31 (Canceled)

Claim 32 (Canceled)